

The following Listing of Claims replaces all prior listings, and versions, of claims in the subject patent application.

Listing of Claims:

1-8. (canceled)

9 (Previously presented): Method of forming a nozzle in a nozzle plate for an ink jet printhead, the nozzle having a nozzle inlet and a nozzle outlet in respective opposite faces of said nozzle plate, the method comprising the steps of:

directing a high energy beam having a first axis extending in a first direction towards said nozzle plate; introducing divergence into said beam; thereafter directing said beam at a single aperture of a mask, thereby to shape said beam; thereafter passing said beam through beam converging means, and subsequently directing said beam at said nozzle plate such that said beam first impinges upon face of said nozzle plate in which said nozzle outlet is formed, thereby to form a nozzle, the nozzle outlet being conjugate through said beam converging means with said single aperture;

wherein the step of introducing divergence into said beam comprises splitting said beam into a number of sub-beams, each sub-beam having divergence, the origin of divergence of each sub-beam lying apart from the point at which the respective sub-beam is created by splitting; thereafter passing the sub-beams through further beam converging means prior to recombining and directing the sub-beams at said single aperture of said mask, wherein dimensions of a section of said recombined beam directly prior to impinging a plane of said mask are substantially equal to dimensions of said single aperture of said mask; and,

wherein said high energy beam is directed at a first beam reflecting surface lying at an angle to said first direction, said first surface being arranged so as to reflect said beam toward two additional beam reflecting surfaces, said first, second and third beam reflecting surfaces being so arranged as to both invert said beam and direct said beam along an axis collinear with said first axis extending in said first direction; said first planar reflecting surface and said at least two additional beam reflecting surfaces being fixed relative to one another, thereby to form an assembly, and rotating said assembly about said first axis, said beam thereafter impinging on said nozzle plate, thereby to form said nozzle wherein said nozzle inlet is larger in diameter than said nozzle outlet.

10-33. (canceled)

34 (Previously presented): Method according to claim 9, wherein the power of said high energy beam is initially held low and is increased with increasing depth of the nozzle formed in said nozzle plate.

35 (Previously presented): Method according to claim 9, wherein a further mask is interposed between the mask and the beam converging means.

36 (Previously presented): Method of forming a nozzle in a nozzle plate for an ink jet printhead, the nozzle having a nozzle inlet and a nozzle outlet in respective opposite faces of said nozzle plate, the method comprising the steps of:

directing a high energy beam having a first axis extending in a first direction towards said nozzle plate; introducing divergence into said beam; thereafter directing said beam at a single aperture of a mask, thereby to shape said beam; thereafter passing said beam through beam converging means, and subsequently directing said beam at said nozzle plate such that said beam first impinges upon the face of said nozzle plate in which said nozzle outlet is formed, thereby to form a nozzle, the nozzle outlet being conjugate through said beam converging means with said single aperture;

wherein the step of introducing divergence into said beam comprises splitting said beam into a number of sub-beams, each sub-beam having divergence, the origin of divergence of each sub-beam lying apart from the point at which the respective sub-beam is created by splitting; thereafter passing the sub-beams through further beam converging means prior to recombining and directing the sub-beams at said single aperture of said mask, wherein dimensions of a section of said recombined beam directly prior to impinging a plane of said mask are substantially equal to dimensions of said single aperture of said mask;

wherein said high energy beam is directed at a first planar reflecting surface lying at an angle to said first direction, said first surface being arranged so as to reflect said beam toward a second beam reflecting surface and a third beam reflecting surface so

arranged as to both invert said beam and direct said beam along an axis collinear with said first axis extending in said first direction; said first planar reflecting surface and said second and third beam reflecting surfaces being fixed relative to one another, thereby to form an assembly, and rotating said assembly about said first axis, said beam thereafter impinging on said nozzle plate, thereby to form said nozzle wherein said nozzle inlet is larger in diameter than said nozzle outlet; and

wherein the power of said high energy beam is initially held low and is increased with increasing depth of the nozzle formed in said nozzle plate.

37(previously presented): Method according to claim 36, wherein a further mask is interposed between the mask and the beam converging means.

38 (Canceled).